

REMARKS

This paper is responsive to an Office Action mailed May 7, 2004. Prior to this response, claims 1-69 were pending. Claims 7-16, 18-32, 37-41, 43-44, 49-58, 64-69 are now pending. Claims 1-6, 17, 33-36, 42, 45-48 and 59-63 have been cancelled. Claims 7, 9, 11-12, 37, 40, 41, 43, 44, 49 and 64-66 have been amended.

In Section 2 of the Office Action claim 33 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Office Action points out that it seems functionally logical and correct that the second mixer is constructed to convert –the cellular CDMA signal- to a second lower frequency signal. Claim 33 has been cancelled without prejudice, rendering the rejection moot.

In Section 4 of the Office Action claims 1-7, 9, 13-18, 20, 33-36, 38, 42, 43, 45, 46-48, and 59-69 have been rejected under 35 U.S.C. 102(b) as anticipated by Camp, Jr. (US 6,097,974). Some of the claims are cancelled, as indicated below. The rejection as to some of the claims are traversed as follows.

Claim 1 has been cancelled without prejudice. Applicant respectfully asserts that claim 1 is patentable over Camp, Jr. Applicant reserves the right to pursue the subject matter of claim 1 in further prosecution in this application or in a later application.

Regarding claims 2, 14 and 36, the Office Action states that Camp, Jr. shows the receiver portion, wherein the GPS antenna assembly and the second rf signal antenna assembly comprise the same antenna assembly (see Col. 6, lines 54-57).

Claims 2 and 36 have been cancelled without prejudice. Applicant respectfully asserts that claims 2 and 36 are patentable over Camp, Jr. Applicant reserves the right to pursue the subject matter of claims 2 and 36 in further prosecution in this application or in a later application.

Claim 14 depends from claim 13 and therefore enjoys the same distinctions from the Camp, Jr. reference as claim 13. Claim 13 will be discussed below, in the order addressed in the Office Action.

Regarding claims 3, 5, 16, 17, 46, 48, 60, 62, and 68, the Office Action states that the Camp, Jr. reference discloses the receiver portion and the method, wherein the second rf signal is a PCS signal.

Claims 3, 5, 17, 46, 48, 60 and 62 have been cancelled without prejudice. Applicant respectfully asserts that claims 3, 5, 17, 46, 48, 60 and 62 are patentable over Camp, Jr. Applicant reserves the right to pursue the subject matter of claims 3, 5, 17, 46, 48, 60 and 62 in further prosecution in this application or in a later application.

Claim 16 depends from claim 13 and therefore enjoys the same distinctions from the Camp, Jr. reference as claim 13. Claim 13 will be discussed below, in the order addressed in the Office Action. Applicant requests removal of the rejection as to claim 16, for at least the reasons stated below with respect to claim 13.

Claim 68 depends from claim 66 and therefore enjoys the same distinctions from the Camp, Jr. reference as claim 66. Claim 66 will be discussed below, in the order addressed in the Office Action. Applicant requests removal of the rejection as to claim 68, for at least the reasons stated below with respect to claim 66.

Regarding claims 4, 15, 34, 47, and 61, the Office Action states that Camp, Jr. shows the receiver portion and method, wherein the lower frequency signal is an IF signal (“IF Filter 646”).

Claims 4, 34, 47, and 61 have been cancelled without prejudice. Applicant respectfully asserts that claims 4, 34, 47, and 61 are patentable over Camp, Jr. Applicant reserves the right to pursue the subject matter of claims 4, 34, 47, and 61 in further prosecution in this application or in a later application.

Claim 15 depends from claim 13 and therefore enjoys the same distinctions from the Camp, Jr. reference as claim 13. Claim 13 will be discussed below, in the order addressed in

the Office Action. Applicant requests removal of the rejection as to claim 15, for at least the reasons stated below with respect to claim 13.

Regarding claim 6, the Office Action states that Camp, Jr. shows the receiver portion of claim 4, further comprising: an IF filter constructed to filter the IF signal (“IF Filter 646”).

Claim 6 has been cancelled without prejudice. Applicant respectfully asserts that claim 6 is patentable over Camp, Jr. Applicant reserves the right to pursue the subject matter of claim 6 in further prosecution in this application or in a later application.

Regarding claims 7, 18, 38, 65 and 67, the Office Action states that the Camp, Jr. reference shows the receiver portion, wherein: a low side injection of a local oscillator is used for mixing the GPS signal down to the IF signal (“in the embodiment of Fig. 7, the circuit that controls the oscillator 732 may be adjusted to supply the appropriate frequency signal and permit reception of either GPS or wide band radiotelephone signals” (Col. 6, lines 39-43)).

This rejection as to claims 7, 18, 38, 65 and 67 is traversed as follows. Camp, Jr. does not describe a low side injection of a local oscillator used for mixing the GPS signal down to the IF signal, as claimed by the applicant. Camp, Jr. does not even have any discussion of local oscillator injection on either side of any signal. This is important, because the choice of high side or low side injection effects the creation of harmonic or other undesired signals in the range of the IF filter. Specification, page 14, line 21 to page 15, line 14. Accordingly, Applicant requests removal of the rejection as to claims 7, 18, 38, 65 and 67.

Regarding claims 9, 20, 64, and 69, the Office Action states that the Camp, Jr. reference shows the receiver portion, wherein: a high side injection of a local oscillator is used for mixing the PCS signal down to the IF signal (“in the embodiment of Fig. 7, the circuit that controls the oscillator 732 may be adjusted to supply the appropriate frequency signal and permit reception of either GPS or wide band radiotelephone signals” (Col. 6, lines 39-43)). “Examples of current PCS systems include those designated IS-95, PCS-1900, and PACS in North America,

DCS-1800 and DECT in Europe, and PHS in Japan” (Col. 1, lines 25-29). “Similar architectures may be used for GPS/DECT and GPS/WCS terminals and methods” (Col. 6, lines 49-50)).

This rejection as to claims 9, 20, 64, and 69 is traversed as follows. Camp, Jr. does not describe a high side injection of a local oscillator used for mixing the PCS signal down to the IF signal. Camp, Jr. does not even have any discussion of local oscillator injection on either side of any signal. The choice of where to inject the local oscillator signal relative to the signal of interest, e.g., GPS or PCS, is important, because the choice of high side or low side injection effects the creation of harmonic or other undesired signals in the range of the IF filter. Specification, page 14, line 21 to page 15, line 14. Accordingly, Applicant requests removal of the rejection as to claims 7, 18, 38, 65 and 67.

Regarding claim 13, the Office Action states that Camp, Jr. shows, among other things, “...a diplexer (911, 912, 913, 914) for isolating a GPS signal from a second rf signal ('a pair of switches 911 and 912 may be used to switch an appropriate GPS RF filter 914 or cellular filter 913. Although these filters are shown as being separate filters, they may be embodied as a shared filter with variable or switched elements' (Col. 6, lines 57-67));”

The rejection of claim 13 is traversed as follows. Camp, Jr. does not show a diplexer, as claimed by Applicant. The switches 911 and 912 and the filters 913 and 914 together are not a diplexer. Camp, Jr. accomplishes a partially similar function to that of a diplexer by use of the filters and switches, yet the device and function are substantially different from that of a diplexer. For example, in a diplexer, signals in both bands are passed if present. Using switches, normally either the GPS signal path or the second RF signal path would be enabled, not both.

Furthermore, a diplexer is a passive device. A diplexer does not require control circuitry or consume power the way many switches consume power.

As indicated by the Office Action, Camp, Jr. states that “Although these filters are shown as being separate filters, they may be embodied as a shared filter with variable or switched elements” (Col. 6, lines 58-61). This statement is not describing a diplexer. A shared filter with variable or switched elements would still have variable or switched elements, which

are active devices. Accordingly, Applicant requests removal of the rejection of claim 13 and all claims that depend from claim 13.

Claims 33, 35 and 42 have been cancelled without prejudice. Applicant respectfully asserts that claims 33, 35 and 42 are patentable over Camp, Jr. Applicant reserves the right to pursue the subject matter of claims 33, 35 and 42 in further prosecution in this application or in a later application.

Regarding claim 43, the Office Action states that Camp, Jr. shows a diplexer. The rejection as to claim 43 is traversed as follows. Camp, Jr. does not show a diplexer as claimed by Applicant, as stated above with reference to claim 13. Claim 43 enjoys the same distinctions from the Camp, Jr. reference as those discussed above with reference to claim 13. Claim 43 has been amended to include all of the elements of cancelled claim 33, from which claim 43 depended. Accordingly, Applicant requests removal of the rejection of claim 43.

Claims 45, 59 and 63 have been cancelled without prejudice. Applicant respectfully asserts that claims 45, 59 and 63 are patentable over Camp, Jr. Applicant reserves the right to pursue the subject matter of claims 45, 59 and 63 in further prosecution in this application or in a later application.

Regarding claim 66, the Office Action states that the Camp, Jr. reference shows, among other things, “mixing, using the mixer, both the GPS signal and the second rf signal to a first IF signal and a second IF signal (see Col. 5, lines 11-20).” This rejection as to claim 66 is traversed as follows. The method of claim 66 requires mixing both the GPS signal and the second rf signal. Camp, Jr. cannot accomplish this. All of the devices shown and described in Camp, Jr. can only mix either the GPS signal or the second RF signal, not both. Accordingly, Applicant requests removal of the rejection of claim 66.

In Section 6 of the Office Action, claims 8, 10-11, 19, 21, 39, 40, 41 and 49 have been rejected under 35 U.S.C. 103(a) as unpatentable over Camp, Jr. in view of Olsen (U.S. Patent Application Publication 2003/0064699 A1). This rejection is traversed as follows.

Applicant respectfully submits that the present invention, as defined by pending claims 8, 10-11, 19, 21, 39, 40, 41 and 49, is patentably distinguishable over Camp, Jr. in view of Olsen. In any event, applicant can swear behind, and does hereby swear behind, the Sept. 28, 2001, effective priority date of Olsen under 37 C.F.R. § 1.131.

Under 37 C.F.R. § 1.131, the inventor(s) of the claimed invention may submit an appropriate declaration to overcome a reference. The showing of facts shall be such as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to the effective date of the reference to a subsequent reduction to practice or to the filing of the application. See 37 C.F.R. § 1.131. For the reasons that follow, applicant respectfully submits that claims 8, 10-11, 19, 21, 39, 40, 41 and 49 are allowable over Camp, Jr. in view of Olsen.

Pursuant to 37 C.F.R. § 1.131, attached is a declaration from Rick Camarillo, the supervisor of the inventor at the time of invention and up to and including the relevant date of the Olsen reference, including a copy the design document entitled “GPS Solution using external GPS LNA and no GPS IF Filter”.

Furthermore, as declared by Rick Camarillo, in the attached declaration, the inventor and others known to Rick Camarillo exercised due diligence from prior to Jan. 12, 2001, in reducing the invention to practice in the United States by, at the latest, Oct. 9, 2001, which is the filing date of the present application.

Also pursuant to 37 C.F.R. § 1.131, attached is a declaration from David Huffaker, an intellectual property attorney who was aware of the drafting and filing processes for patent applications for Kyocera Wireless Corp., the assignee of the present application, during the period from March 20, 2001, to Oct. 9, 2001. As stated by David Huffaker, the subject matter of the present application was disclosed to the intellectual property department of Kyocera Wireless Corp. on or about March 20, 2001. An Invention Disclosure is attached as Exhibit B. Between March 20, 2001, and Oct. 9, 2001, the date of filing of the patent application, diligence was exercised in drafting and filing the patent application.

As such, the design document and the Invention Disclosure evidence conception of the invention of the subject matter of the above-referenced application, as specified by pending claims 8, 10-11, 19, 21, 39, 40, 41 and 49, in the United States prior to Sept. 28, 2001, the effective priority date of Olsen.

Accordingly, applicant respectfully requests that the rejection of pending claims 8, 10-11, 19, 21, 39, 40, 41 and 49 under 35 U.S.C. §103(a) be withdrawn.

In Section 7 of the Office Action, claims 12, 22 and 37 have been rejected under 35 U.S.C. 103(a) as unpatentable over Camp, Jr. in view of Nobusawa (U.S. Patent 5,390,357). This rejection is traversed as follows.

An invention is unpatentable if the differences between it and the prior art would have been obvious at the time of the invention. As stated in MPEP § 2143, there are three requirements to establish a *prima facie* case of obviousness.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Nobusawa is concerned with providing a power saving diversity receiver in which power supply to each diversity branch is cut off when it is out of circuit (col. 1, lines 15-17). It can be appreciated that diversity involves receiving a single communication signal over two or more antennas, so Nobusawa is not motivated to use a common mixer for receiving and transmitting multiple communication signals. More specifically, Nobusawa is concerned with improving the signal quality of a single communication. Two receive paths are used for the same communication. If one of the paths is experiencing a signal fading condition, then Nobusawa hopes to receive the communication through the other path. Accordingly, Nobusawa is not concerned with receiving and transmitting multiple communication signals.

The claimed invention, however, is concerned with reducing the number of mixers in a device that receives or transmits multiple communication signals. More specifically, the claimed invention uses a band select switch coupled to the GPS control signal generator for selecting the GPS signal or the second RF signal, responsive to the GPS control signal; [and] a mixer coupled to the band select switch for receiving the selected signal and to a local oscillator for converting the selected signal and to a local oscillator for converting the selected signal to the lower frequency signal..." Claim 1. Since the diversity receiver of Nobusawa is only used to receive one communication signal, there is no band select switch and there is no band select switch coupled to a low noise amplifier. Furthermore, there is no motive to combine Nobusawa with a multiband receiver portion. More specifically, there is no motive to combine Nobusawa with a multiband receiver portion using a single, common mixer.

"It is impermissible to reconstruct the claimed invention from selected pieces of prior art absent some suggestion, teaching, or motivation in the prior art to do so. *Interconnect Planning Corp. v. Feli*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985).

With respect to the first *prima facie* requirement, there is no motivation in the Nobusawa reference that suggests a modification that would make the claimed invention obvious. Nobusawa's problem is to reduce power consumption of a diversity receiver. There is nothing in the reference to suggest the use of a single mixer in a multiband receiver portion. More critically, there is nothing in the Nobusawa reference that points to powering on or off a low noise amplifier in a multiband receiver portion. Alternately stated, Nobusawa discloses powering on and off the low noise amplifiers in a diversity receiver. However, there is nothing in the reference that points to the desirability of powering on and off the low noise amplifiers in a multiband receiver portion. Neither is there any indication that Nobusawa knows how to make a multiband receiver portion with a single, common mixer.

Further, the Office Action has not demonstrated that the modification of the cited reference points to the reasonable expectation of success in the present invention, which is the second requirement of the obviousness analysis. As noted above, even if there was motivation

for Nobusawa to build a multiband receiver portion with a common, single mixer, there is no expectation in the reference that Nobusawa would know how to make a multiband receiver portion with a single, common mixer.

With respect to the third requirement to support a *prima facie* case of obviousness, Nobusawa does not describe all the limitations of the invention of claims 12, 22 and 37. That is, neither Camp, Jr. nor Nobusawa discloses a GPS control signal generator coupled to a power line of the GPS low noise amplifier. Further, neither Camp, Jr. nor Nobusawa disclosed a GPS control signal generator coupled to a power line of the PCS low noise amplifier for coupling the power supply to the PCS low noise amplifier when the GPS control signal is off. Since Nobusawa neither suggests nor explicitly describes the claimed invention, the Applicant requests that the rejections of claims 12, 22 and 37 be removed.

In Section 8 of the Office Action, claims 23-27, 29, 31, 44 and 50-58 have been rejected under 35 U.S.C. 103(a) as unpatentable over Camp, Jr. in view of Peterzell (U.S. Pat. No. 6,694,129). This rejection is traversed as follows.

Applicant respectfully submits that the present invention, as defined by pending claims claims 23-27, 29, 31, 44 and 50-58, is patentably distinguishable over Camp, Jr. in view of Peterzell. In any event, applicant can swear behind, and does hereby swear behind, the Jan. 12, 2001, effective priority date of Peterzell under 37 C.F.R. § 1.131.

Under 37 C.F.R. § 1.131, the inventor(s) of the claimed invention may submit an appropriate declaration to overcome a reference. The showing of facts shall be such as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to the effective date of the reference to a subsequent reduction to practice or to the filing of the application. See 37 C.F.R. § 1.131. For the reasons that follow, applicant respectfully submits that claims claims 23-27, 29, 31, 44 and 50-58 are allowable over Camp, Jr. in view of Peterzell.

Pursuant to 37 C.F.R. § 1.131, attached is a declaration from Rick Camarillo, the supervisor of the inventor at the time of invention and up to and including the relevant date of the

Peterzell reference, including a copy the design document entitled "GPS Solution using external GPS LNA and no GPS IF Filter".

Furthermore, as declared by Rick Camarillo, in the attached declaration, the inventor and others known to Rick Camarillo exercised due diligence from prior to Jan. 12, 2001, in reducing the invention to practice in the United States by, at the latest, Oct. 9, 2001, which is the filing date of the present application.

Also pursuant to 37 C.F.R. § 1.131, attached is a declaration from David Huffaker, an intellectual property attorney who was aware of the drafting and filing processes for patent applications for Kyocera Wireless Corp., the assignee of the present application, during the period from March 20, 2001, to Oct. 9, 2001. As stated by David Huffaker, the subject matter of the present application was disclosed to the intellectual property department of Kyocera Wireless Corp. on or about March 20, 2001. An Invention Disclosure is attached as Exhibit B. Between March 20, 2001, and Oct. 9, 2001, the date of filing of the patent application, diligence was exercised in drafting and filing the patent application.

As such, the design document and the Invention Disclosure evidence conception of the invention of the subject matter of the above-referenced application, as specified by pending claims claims 23-27, 29, 31, 44 and 50-58, in the United States prior to Jan 12, 2001, the effective priority date of Peterzell.

Accordingly, applicant respectfully requests that the rejection of pending claims claims 23-27, 29, 31, 44 and 50-58 under 35 U.S.C. §103(a) be withdrawn.

In Section 9 of the Office Action, claim 28 is rejected under 35 U.S.C. 103(a) a being unpatentable over Camp, Jr. in view of Peterzell and further in view of Nobusawa. This rejection is traversed as follows.

Claim 28 contains a common limitation with claims 12, 22 and 37, namely, coupling a GPS control signal generator "to a power line of the GPS low noise amplifier for coupling the power supply to the GPS low noise amplifier when the PGS control signal is on; and to a power line of the PCS low noise amplifier for coupling the power supply to the PCS low

noise amplifier when the GPS control signal is off." As such, claim 28 enjoys the same reasons for patentability as claims 12, 22 and 37 discussed above with reference to section 7 of the Office Action. Accordingly, applicant respectfully requests that the rejection of pending claims claims 12, 22 and 37 under 35 U.S.C. §103(a) be withdrawn.

In section 10 of the Office Action, claims 30 and 32 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Camp, Jr. in view of Peterzell and further in view of Olsen. This rejection is traversed as follows.

Applicant respectfully submits that the present invention, as defined by pending claims claims 30 and 32, is patentably distinguishable over Camp, Jr. in view of Peterzell and further in view of Olsen. In any event, applicant can swear behind, and does hereby swear behind, the Jan. 12, 2001, effective priority date of Peterzell and the Sept. 28, 2001 effective priority date of Olsen under 37 C.F.R. § 1.131. The same facts and reasoning as presented with respect to Office Action sections 6 and 8 apply here, where both Peterzell and Olsen are relied upon. Accordingly, applicant respectfully requests that the rejection of pending claims claims 30 and 32 under 35 U.S.C. §103(a) be withdrawn.

In section 11 of the Office Action, several other references are made of record. The applicant has reviewed the references made of record and hereby respectfully asserts that the invention is patentably distinct from the references made of record.

It is believed that the application is in condition for allowance and reconsideration
is earnestly solicited.

Respectfully submitted,

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